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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/323,628 06/01/99 KITOH

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EXAMINER

SORKIN, D

ART UNIT

PAPER NUMBER

1723

DATE MAILED:

02/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

| | | | |
|------------------------------|-----------------|----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/323,628 | KITOH, KENSHIN | |
| | Examiner | Art Unit | |
| | David L. Sorkin | 1723 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1, 7, 14-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Gauthier et al. (US 6,099,986). Regarding claim 1, Gauthier ('986) discloses a lithium secondary battery comprising an internal electrode body including a positive electrode (55/68), a negative electrode (56/64), a separator (66), the positive electrode and the negative electrode being laminated via the separator so that the positive electrode and the negative electrode are not brought into direct contact with each other (see fig. 3; col. 4, lines 34-43); an organic electrolyte (see col. 4, line 38); and at least a plurality of tabs (53/54) connected to each of the positive and negative electrodes for current collecting, the tabs having a total cross-sectional area so that the tabs may not fuse when at least 100 A current flows through the battery (see fig. 12). Regarding claim 7, Gauthier ('986) discloses a lithium secondary battery comprising an internal electrode body including a positive electrode (55/68), a negative electrode (56/64), a separator (66), the positive electrode and the negative electrode being laminated via the separator so that the positive electrode and the negative electrode are not brought into direct contact with each other (see fig. 3; col. 4, lines 34-43); an organic electrolyte (see col. 4, line 38);

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and at least a plurality of tabs (53/54) connected to each of the positive and negative electrodes for current collecting. Although Gauthier ('986) does not specifically discuss the tabs being used in a process where they are fused by electric current, all materials have an inherent capability of fusing if enough current is applied. Regarding claims 14 and 15, Gauthier ('986) discloses the tabs being substantially identical (see fig. 1A; fig. 13; col. 11, lines 15-38). Regarding claims 16 and 17, each tab (53) is connected to a the electrode at a first end and a terminal (57) at a second end (57) by welding (see col. 3, lines 30-31). Regarding claims 18 and 19, the battery capacity is not less than 5 Ah (see col. 4, lines 24-27). Regarding claims 20 and 21, the battery is used for an electric vehicle (col. 3, lines 7-10).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-6, 8-13 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gauthier et al. (US 6,009,986). Gauthier ('986) further discloses tabs being copper (col. 3, lines 22-25), as recited in claims 2, 4, 6, 8, 9, 12, 13, 22 and 24-27. Claims 2-6, 8-9, 12-13, 22-27 additionally recite size limitations of the tabs. It is considered that it would have been obvious to one of ordinary skill in the art to have optimized the size of the tabs to carry a desired amount of electric current. Regarding claims 10 and 11, Gauthier ('986) fails to explicitly disclose an internal resistance value

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for a cell. However, in col. 8, lines 17-37 it is stated that conductivity (which is essentially resistance expressed as its reciprocal) of a cell is an important variable to consider in designing a cell, to minimize overheating. Therefore it is considered that it would have been obvious to one of ordinary skill in the art to have optimized the resistance of the cell, to prevent overheating.

Response to Arguments

5. Applicant argues that Gauthier ('986) fails to disclose a plurality of tabs connected to each of positive and negative electrodes. However, fig. 1A discloses a plurality of tabs (two tabs, reference sign 54). One tab is connected to the positive electrode and one is connected to the negative electrode. Also, also fig. 1B shows only one tab 53, col. 3 lines 22-34 state the tab 53 can be on both the cathode and anode.

6. While the examiner agrees with applicant's statement terminals 134 are not the same as 53 or 54, col. 11 lines 23-25 describes the terminal 134 as connected to a contact of the cell. So 134 is intended to be connected to 53 or 54 and could be considered an extension of these tabs.

7. The examiner agrees that tabs 53, 54 and 134 are not disclosed to be used a fuse, however, the intended use of the tab does not structurally limit the tab itself. All materials are capable of being fused upon carrying a high enough current.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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David Sorkin

February 23, 2001



W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700



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